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**The Moore/Sylvester-Bradley "Parataxa Plan":
Note of Support supplementary to Document 1/43**

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(for Document 1/43 see 1958, *Bull. zool. Nomencl.* 15 : 245-246)

The Holothuroidea differ from all other Echinoderm classes in having a greatly reduced calcareous skeletal system. External plates are typically absent and usually a peripharyngeal crown, anal plates, madreporite, and sclerites are present. Of these the endoskeletal sclerites (or ossicles) formed in the superficial dermal layers constitute the outstanding character of the class, they are of microscopic size and occur in an endless variety of shapes; an association of several types being usual in individual specimens. Their shapes are of paramount importance in the species identification of Recent forms, each of which is characterised by its sclerites (Hyman, 1955 : 134).

2. As explained in my note of 12th November 1957, dissociated fossil sclerites are the only basis for an understanding of the palaeontology of the class Holothuroidea. They are widely distributed in marine sedimentary strata, but are seldom common. The study of fossil sclerites, however, presents an almost completely unexplored field in micropalaeontology, as no method has been provided, other than the dual nomenclature outlined below, for applying names to them without reference to the whole-animals which they represent. The present classification of fossil Holothuroidea proposed by Frizzell & Exline (1955 : 56), is based completely on disjunct components (sclerites) and, although, as in any classificatory system based on form and structure, it unavoidably follows to some extent the pattern of natural (genetic) relationship, is completely artificial. The arrangement of families is based

on the development of sclerites in Recent holothurians; a family being erected to include all those sclerites of a general morphological type. Genera, in turn, are grouped on more restricted features, and similarly species are based ideally on suites of nearly identical sclerites (Latin binomial names being applied). Markedly unlike sclerites are found within Recent biospecies, and apparently identical sclerites are reported to exist in relatively unrelated forms. No rule can be given for recognising variable sclerites, unless coherent variation can be shown, of a single biospecies, as opposed to similar sclerites belonging to distinct forms, and in micropalaeontological studies ontogenetic stages in sclerite associations of a biospecies must be ignored as their relationships cannot be determined (see Frizzell & Exline, *op. cit.*). The relationship of disjunct fossil sclerite "species, genera and families", to their respective biospecies is, therefore, usually obscure (Hampton, 1957a). It appears obvious, therefore, that fossil holothurian sclerites are best fitted only for "Parataxa", Frizzell & Exline recognise the categories of their classification (1955) as "Parataxa" (Frizzell, 1957). Such recognition of fossil holothurian sclerites as "Parataxa" would make the study of these discrete fragments of considerable value in stratigraphic-micropalaeontological research.

3. In recent micropalaeontological studies (Hampton, 1957, *b, c, d* and *e*) several new "genera, subgenera and species" of holothurian sclerites have been proposed. The artificial nature of these categories was recognised, as was the need for a separate classification (Hampton, 1957a), and as they were proposed within the classification of Frizzell & Exline (1955), they are best considered as "Parataxa".

4. It is for the foregoing reasons that, as I have said in my communication of 12th November 1957, I strongly support the proposals of Moore & Sylvester-Bradley (1957) to apply in the study of these discrete fossil fragments.

PURCHASED

14 APR 1958

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